

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF December 3, 2004

Prepared on August 23, 2004

ITEM: xx

**SUBJECT: Adoption of the San Luis Obispo Creek Total Maximum Daily Load
(TMDL) for Pathogens as a Basin Plan Amendment**

INTRODUCTION

San Luis Obispo Creek (Creek) was placed on the 303(d) list for pathogens in 1996. The listing was prompted by data indicating that fecal coliform bacteria levels exceed Basin Plan objectives for the protection of water contact recreation (REC-1).

Staff targeted TMDL funds for this project in the fiscal year 2000-2001. Staff began monitoring in March 2001 and ended two years later. Water quality analysis focused on fecal and total coliform concentration within the water column in the main stem and tributaries of the Creek. Fecal coliform are used as an indicator organism for the presence of pathogenic organisms.

This staff report summarizes TMDL elements as well as provides the background information needed to understand the problems and solutions being proposed. The reader will be referred to attachments of this report to support summary statements made in this staff report.

Problem Statement and Numeric Target

The numeric target used to develop the allocations and TMDL is equivalent to the existing Basin Plan water quality objective for fecal coliform supporting the REC-1 beneficial use. The Basin Plan water quality objective for fecal coliform protecting REC-1 is: fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL. Nor shall more than ten percent of total samples during any 30-day period exceed 400/100mL. This objective also protects the non-water contact recreation (REC-2)

beneficial use because it is more stringent than the objective protecting REC-2. Staff considered utilizing *E. coli* as an indicator and numeric target. However, staff determined that fecal coliform will be used as the numeric target for the TMDL because: 1) the listing was prompted by fecal coliform concentration, and 2) REC-1 and REC-2 are currently protected using fecal coliform objectives through Basin Plan objectives.

Current levels of fecal coliform in the Creek are not supportive of the REC-1 and REC-2 beneficial uses. Specifically, fecal coliform concentration in the Creek is regularly an order of magnitude or greater than the objectives currently protecting REC-1 and REC-2; this is particularly so during low flow summer months in the business district of San Luis Obispo. Please see Figure 1.1 of Attachment-B (TMDL Project Report), illustrating fecal coliform levels in the Creek.

Source Analysis

The City of San Luis Obispo (City) is situated in the middle of the watershed. The Creek flows under the business district through a tunnel over 1200 feet in length. Birds and bats are attracted to the tunnel and roost in large numbers, creating areas where guano builds up along the stone walls. In addition, water and sewer lines cross the tunnel near the ceiling. Staff utilized data from monitoring efforts and DNA fingerprinting analysis in developing the source analysis. Five source categories of fecal coliform have been identified. The categories are: 1) background, 2) birds and bats in the tunnel (TBB), 3) urban, 4) sewage, and 5) livestock. The categories are described in detail in Attachment-B (TMDL Project

Report), section 4.2. Urban and sewage sources together constitute 75% of the total source loading. The sewage sources identified thus far are from leaking private lateral lines in the tunnel. Efforts to identify other sewage sources are ongoing. The urban source category is a large category comprised of sources from dogs, cats, humans, and other sources deposited on streets and sidewalks conveyed through the storm drain system or by overland flow. Figure 4.5 of the Source Analysis section of Attachment-B (TMDL Project Report), illustrates results from DNA fingerprinting; notice that the human and sewer source categories constitute 56% of the 200 total DNA identified. Figure 4.6 of Attachment-B illustrates the relative contributions for each source category.

Allocations

The allocations are expressed as receiving water concentration of fecal coliform. The allocations are established with respect to location, season, and responsible party. This is possible because the sources are identified by source category, which in turn are attributed to a responsible party. In addition, the source loading occurs in definable areas along the stream, lending to allocations defined geographically. The attachment "Proposed Basin Plan Amendments," contained within Attachment-A, articulates the allocations with respect to location, season, and responsible party.

The responsible parties are: 1) the city of San Luis Obispo, 2) the county of San Luis Obispo, and 3) Cal Poly State University. Note that each load and wasteload allocation includes an allocation for background sources. Also note that allocations increase downstream to a level equal to the numeric target. The allocations are calculated based on the observed portion of total loading by source; if the livestock source is responsible for 6% of the current loading, then livestock are allocated 6% of the allowed (allocated) loading.

The *reductions* necessary to achieve the numeric target reach as high as 97% of current levels. The highest reductions will be

necessary during summer months when flow, and therefore dilution, is minimal.

TMDL

The TMDL is equal to the numeric target, which is a receiving water concentration of fecal coliform.

Implementation Plan

The responsible parties identified in the allocation section above are those responsible for implementing actions to reduce fecal coliform loading. Each responsible party is required to implement actions to achieve their respective allocations. Implementation is required pursuant to existing regulatory authority through currently held National Pollutant Discharge Elimination System (NPDES) permits and/or Waste Discharge Requirements (WDR). The Executive Officer of the Regional Board will amend the monitoring and reporting requirements associated with existing NPDES permits and WDRs. The Executive Officer will also utilize authority pursuant to sections 13267 and/or 13383 of the California Water Code to include specific requirements for reporting on implementation actions and monitoring required by this TMDL. The attachment "Proposed Basin Plan Amendments," contained within Attachment-A, describes the responsibilities of each responsible party with respect to TMDL implementation.

Monitoring Plan

The monitoring plan identifies five key sites to monitor fecal coliform concentration. The sites are located to help staff and implementing parties determine whether fecal coliform loading from identified sources is being reduced through implementation. Monitoring results will also demonstrate when the TMDL is achieved.

The City and Cal Poly State University will be required to monitor fecal coliform levels in the Creek. The County of will not be required to monitor, although they are responsible for implementation actions, because loading from County sources are significantly less than sources from City and Cal Poly lands. Monitoring requirements are summarized in

Table 11.1 of Attachment-B, the TMDL Project Report.

Achieving the TMDL

The target date to achieve the TMDL is 10 years after approval by the Office of Administrative Law. This projection is based on anticipated implementation schedules of the responsible parties, which are in turn based on economic and logistic considerations.

Cost of Implementation

The cost to implement and achieve the TMDL is estimated to be \$2,577,210. This figure is based largely on the anticipated costs to implement NPDES stormwater strategies related to fecal coliform loading. The total cost may be overestimated as implementation has already begun on several fronts. Please see an itemization of the anticipated cost in section 10.6 of Attachment-B the TMDL Project Report. .

ENVIRONMENTAL SUMMARY

An environmental assessment package has been prepared and is contained in Attachment-C of this report. The basin planning process has been determined to be functionally equivalent to the California Environmental Quality Act process in accordance with Section 21000 et seq. of the Public Resources Code. Appropriate notices and waiting periods have been provided. This process will satisfy environmental documentation requirements of both the California Environmental Quality Act, under Public Resources Code Section 21080.5 (Functional Equivalent), and the Federal Clean Water Act of 1977 (PL 92-500 and PL 95-217).

PUBLIC COMMENTS

1. Text here:

Staff Response here:

2. Text here:

Staff Response here:

RECOMMENDATION

Adopt Resolution No. R3-2004-0142 contained in Attachment A, as proposed.

ATTACHMENTS:

- A. Resolution No. R3-2004-0142, including attachment "Proposed Basin Plan Amendments."
- B. Final Project Report: Total Maximum Daily Load for Pathogens in San Luis Obispo Creek
- C. California Environmental Quality Act "Functional Equivalent" Report for Basin Plan Amendment (Resolution No. R3-2004-0142)
- D. Notice of Public Hearing / Notice of Filing
- E. Draft Certificate of Fee Exemption/De Minimus Impact Finding
- F. Scientific Peer Review Comments and Staff Response